

LISTING OF CLAIMS:

This listing of claims will replace all prior versions of claims in the application:

- 1 1. (Withdrawn) A magnetic head having an air bearing surface, comprising:  
2 a magnetoresistive sensor;  
3 a magnetic, electrically conductive shield having a surface defining a plane and having  
4 first and second lateral sides, formed in proximity to and electrically insulated  
5 from said sensor;  
6 first and second electrically conductive layers extending from said first and second sides  
7 of said shield, said first and second conductive layers being coplanar with and  
8 electrically insulated from said shield;  
9 a first electrical lead connected with said first electrically conductive layer; and  
10 a second electrical lead connected with said second electrically conductive layer.
- 1 2. (Withdrawn) A magnetic head as recited in claim 1 wherein said at least one of  
2 said first and second electrical circuits is electrically connected with said sensor.
- 1 3. (Withdrawn) A magnetic head as recited in claim 1 wherein said first and second  
2 electrically conductive layers comprise the same material as said shield.
- 1 4. (Withdrawn) A magnetic head as recited in claim 1 further comprising first and  
2 second electrically insulating gaps formed at said first and second sides of said  
3 shield, said gaps electrically isolating said first and second electrically conductive  
4 layers from said shield.
- 1 5. (Withdrawn) A magnetic head as recited in claim 1 wherein said sensor has a  
2 surface defining a second plane and wherein said shield and said sensor are  
3 parallel and non-coplanar.

- 1 6. (Withdrawn) A magnetic head, comprising:  
2 a magnetoresistive sensor;  
3 a shield layer formed in proximity to said sensor, said shield comprising a soft  
4 magnetic, electrically conductive material;  
5 a layer of electrically conductive material adjacent to said shield;  
6 a dielectric material disposed between said shield and said electrically conductive  
7 material layer and electrically isolating said shield therefrom;  
8 a first electrically conductive lead in electrical communication with said layer of  
9 electrically conductive material; and  
10 a second lead in electrical communication with said shield.
- 1 7. (Withdrawn) A magnetic head as in claim 6, wherein said electrically conductive  
2 layer is coplanar with said shield.
- 1 8. (Withdrawn) A magnetic head as in claim 6, wherein said electrically conductive  
2 layer is coplanar with said shield and comprises the same material as said shield.
- 1 9. (Withdrawn) A magnetic head as in claim 6, wherein said electrically conductive  
2 layer is formed in a common manufacturing step with said shield.
- 1 10. (Withdrawn) A magnetic head as in claim 6, wherein said shield is disposed  
2 above said sensor.
- 1 11. (Withdrawn) A magnetic head as in claim 6, wherein said shield is disposed  
2 below said sensor.
- 1 12. (Original) A method of manufacturing a magnetic head, comprising:  
2 forming a layer of magnetic, electrically conductive material;  
3 forming first and second electrically insulating gaps in said magnetic, electrically  
4 conductive material layer said first and second gaps terminating substantially at a  
5 predetermined lap stop location, said first and second gaps defining a central

6 portion and first and second laterally opposed outer portions of said magnetic,  
7 electrically conductive layer;  
8 forming a magnetoresistive sensor;  
9 forming a first electrically conductive lead connected with said first outer portion of said  
10 magnetic, electrically conductive layer;  
11 forming a second electrically conductive lead connected with said second outer portion of  
12 said magnetic, electrically conductive layer; and  
13 performing a lapping operation until at least one of said first and second gaps is reached.

1 13. (Original) A method as recited in claim 12 further comprising measuring an  
2 electrical resistance between said first and second leads until an increase in said  
3 resistance indicates that said lap stop location has been reached.

1 14. (Original) A method as recited in claim 12 wherein a portion of said  
2 magnetic, electrically conductive material extending beyond said lap stop location  
3 is contiguous.

1 15. (Original) A method as recited in claim 12 wherein said magnetic, electrically  
2 insulating material is formed before the formation of said sensor so as to be  
3 formed below said sensor.

1 6. (Original) A method as recited in claim 12 wherein said magnetic, electrically  
2 insulating material is formed after the formation of said sensor so as to be formed  
3 above said sensor.

1 17. (Original) A method for constructing a magnetic head, comprising  
2 forming a magnetoresistive sensor;  
3 forming a layer of magnetic, electrically conductive material having proximal and  
4 distal ends, and first and second lateral side portions;  
5 providing a gap in said layer of magnetic, electrically conductive material, said  
6 gap terminating short of said proximal end and extending through said distal end;

1 performing a lapping operation, said lapping operation initiating from said  
2 proximal end and proceeding toward said distal end;  
3 measuring an electrical resistance between across said magnetic, electrically  
4 conductive layer from said first lateral side portion to said second lateral side  
5 portion;  
6 ceasing lapping when said electrical resistance reaches a predetermined value.

1 18. (Original) A method as in claim 17 wherein said layer of magnetoresistive  
2 sensor is formed before the formation of said magnetic, electrically conductive  
3 layer.

1 19. (Original) A method as in claim 17, wherein said layer of magnetoresistive  
2 sensor is formed after the formation of said magnetic, electrically conductive  
3 layer.

1 20. (Original) A method as in claim 17, further comprising depositing a dielectric  
2 layer between said sensor and said magnetic electrically conductive material layer.

1 21. (Withdrawn) A magnetic recording system, comprising:  
2 a housing;  
3 a motor connected with said housing;  
4 a spindle connected with said motor;  
5 a magnetic disk mounted on said spindle for rotation about its own axis;  
6 an actuator supported within said housing;  
7 a slider supported by said actuator for movement across a surface of said disk;  
8 a magnetic head formed on said slider, said magnetic head further comprising:  
9 a magnetoresistive sensor;  
10 a shield layer formed in proximity to said sensor, said shield comprising a  
11 soft magnetic, electrically conductive material;  
12 a layer of electrically conductive material adjacent to said shield;

13 a dielectric material disposed between said shield and said electrically  
14 conductive material layer and electrically isolating said shield  
15 therefrom;  
16 a first electrically conductive lead in electrical communication with said  
17 layer of electrically conductive material; and  
18 a second lead in electrical communication with said shield.

1 22. (Withdrawn) A magnetic head, comprising:

2 a magnetic, electrically conductive shield;

3 a sensor formed above and electrically isolated from said shield;

4 first and second lap guides, electrically connected with said shield.

1 23. (Withdrawn) A magnetic head as in claim 22, wherein said first and second lap  
2 guides are coplanar with said sensor.

1 24. (Withdrawn) A magnetic head as in claim 22 wherein said first and second lap  
2 guides are comprise the same materials as said sensor.

1 25. (Withdrawn) A magnetic head as in claim 22 wherein said first and second lap  
2 guides are constructed in a common manufacturing step with said sensor.

1 26. (Withdrawn) A magnetic head as in claim 22 further comprising first and second  
2 vias, electrically connected said first and second lapping guides with said shield.

1 27. (Withdrawn) A magnetic head as in claim 22 further comprising first and  
2 second electrically conductive leads in electrical communication with said first  
3 and second lap guides.